COMTROL®

# RocketLinx™ ES7528

Part Number: 32049-4

PoE SWITCH

## KEY FEATURES AND BENEFITS ::

- 24 10/100BASE-TX, 4 Gigabit uplink/4 SFP ports
- 24-ports support both 15.4W IEEE 802.3af and 30W high power IEEE 802.3at, including 2-event and LLDP classification
- IEEE 802.3at and IEEE 802.3af with max. 30W per port
- LPLD for reliable PoE connection through Active Powered Device status detection and auto reset function
- Total PoE power budget of up to 720 watts
- Flexible-bandwidth and long-distance fiber data transmission via SFP transceivers
- 12.8G Non-Blocking backplane and 16K MAC table
- IEEE 1588 PTP compliance for precise time synchronization
- Advanced Redundant ring capabilities for aggregating up to 12 x 100Mb rings plus 2 Gigabit rings
- Supports up to 9,216 bytes Jumbo Frame for large file transmission
- Optimized IGMP Query v1/v2 and IGMP Snooping v1/v2/v3 for advanced multicast filtering
- Supports up to 255 VLANs for traffic isolation
- Advanced network management features including SNMP
- Supports DHCP client/server and DHCP Option 82 for automatic IP configuration
- Dual redundant AC and DC power input voltage range: 48VDC (46-57VDC) and 100-250VAC, 47-63Hz, 4A
- IP31 rugged aluminum case with superior heat dispersal
- IPV6 support

## PRODUCT DESCRIPTION ::

The RocketLinx ES7528 is a fully 802.3at compliant PoE Plus rack mount switch that features 24 10/100BASE-TX Ethernet ports and 4 Gigabit Uplink/SFP Combo ports. This switch is designed for highly critical PoE applications such as real time IP video surveillance and wireless communications systems.

All of the fast Ethernet PoE injector ports can deliver 15.4W by IEEE 802.3af or 30W by the latest high power PoE IEEE 802.3at standard. This flexibility makes the ES7528 the perfect solution for upgrading existing video network infrastructures to a powerful IP video surveillance network.

The 4 Gigabit Ethernet ports provide high speed uplinks to higher level backbone switches while advanced ring technology enables the ES7528 to aggregate up to 12 fast Ethernet rings and 2 gigabit rings providing high quality data transmission with less than 5ms network recovery time. To ensure traffic switching without data loss and blocking, the ES7528 provides a 12.8G backplane with integtrated non-blocking switching function.

With advanced Layer2 management features including IGMP Query/ Snooping, DHCP, 255 VLAN, QoS, LACP, LPLD, and 24 PoE Plus ports, the RocketLinx ES7528 stands out from other PoE switches as the optimal solution for high density PoE and video surveillance applications.

PoE POWER OVER ETHERNET

# ROCKETLINX SPECIFICATIONS ::

## HARDWARE

**Bus Interface Specification**
10/100/1000BASE-TX, 1000BASE-SX/LX/LHX/XD/ZX Gigabit Fiber
**Enclosure** Black Finished Steel
**Installation Method** 19-inch, 1U Rack Mount
**LED Indicators**
Ring Status, DC Power, PSU Status, System Status, Alarm, Ethernet port Link/Activity Status, PoE Status
**Dimensions** 17" x 14.8" x 1.7"
43.18 x 37.59 x 4.32 cm
**Product Weight** 13.10 lbs
5.94 kg

## TECHNOLOGY

**Standard**
IEEE802.3af Power Over Ethernet (PoE)
IEEE802.3at Power Over Ethernet Plus (PoE Plus)
IEEE802.3 for 10BASE-T
IEEE802.3u for 100Base-TX
IEEE802.3ab for 1000Base-TX
IEEE802.3z Gigabit Ethernet Fiber
IEEE802.1Q VLAN
IEEE802.1P GMRP
IEEE802.1p Class of Service
IEEE802.1d Spanning Tree Protocol (STP)
IEEE802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
IEEE802.3ad for Port Trunk with Link Aggregation Control Protocol (LACP)
IEEE802.1x Port Based Network Access Control
IEEE802.1AB Link Layer Discovery Protocol
IEEE1588 Precision Time Protocol
**Protocols**
IGMP Snooping v1/v2/v3, IGMP Query v1/v2, SNMP v1/v2c/v3, SNMP MIB, NTP, HTTP, HTTPS, SSL, SSH, GMRP, GVRP, IEEE1588 PTP, DHCP Server/ Client, DHCP Option 82, Syslog, RMON, LACP, RSTP, STP, LLDP
**Flow Control**
IEEE802.3x Flow Control and Back-Pressure

## PERFORMANCE

**Switch Technology** 12.8Gbps Switch Fabric
Store and Forward Switch Technology
**PoE Technology**: Endspan wiring architecture
IEEE802.3af Compliant
IEEE802.3at Compliant – 2-event and LLDP Classification
**System Throughput**
14,880pps for 10Mbps; 148,880pps for 100Mbps; 1,488,100 for Gigabit Ethernet
**Number of MAC Address** 16K
**Packet Buffer Memory** 32Mbits
**Transfer Packet Size** 64 – 1536 Bytes
**Jumbo Frame Size** Up to 9216 Bytes
**Priority Queues per Port** 8
**Port Trunk (Max)** 8 Trunk Groups
**Ports per Trunk (Max)** 8 Ports
**VLAN (Max)** 256

## PoE FEATURES

**Standards**
IEEE802.3af Power Over Ethernet (PoE)
IEEE802.3at Power Over Ethernet Plus (PoE Plus)
**PoE Mode** Alternate A
**Number of PoE Injector Ports** 24
**Maximum Power/ PoE Port (Max.)**
15.4W (IEEE802.3af mode)
32W (IEEE802.3at mode)
**Total Power Budget (Min.)** Up to 568W
**Total Power Budget (Max.)** Up to 720W
**Standard PoE Voltage Output** Yes.
IEEE802.3af compliant 44-57VDC
IEEE802.3at compliant 50-57VDC
**Non-Standard PoE Voltage Output** 24VDC
**PoE Control**
User-configuration for PoE enable, disable, or schedule-based PoE function
**Smart Powered Device Alive-Check**
User-configuration to monitor real-time status of connected PD's. PoE port is reset to bring a PD back to working state, if connected PD fails
**Real-time Status on Web Interface**
Real-time status on port status, PoE status, PD Status
**Forced Powering**
Advanced feature to supply power to non-standard PoE devices that can't be detected as valid PD's
**Power Limit Control**
Standard mode for IEEE802.3af PD Manual mode for user-configuration of power limit to IEEE802.3af standard PD Ultra mode for user-configuration to perform at the 30W power imitation or forced powering mode for non-standard PD PoE
**Schedule Control**
PoE ports are configurable as on/off by hourly/weekly basis. Each PoE port can be scheduled to activate/deactivate PoE power with different rule using web interface.
**PoE Protection**
Over-temperature, over-current, over/under voltage, and transient protection

## MANAGEMENT FEATURES

**Configuration**
Web (http and https), SSH, Telnet, SNMP, and console port. Command Line Interface similar to Cisco. NetVision for Windows for RocketLinx discovery, easy IP configuration, and uploading firmware
**Link Layer Discovery Protocol (LLDP)**
LLDP to advertise system/port identity and local network's capability
**SNMP** SNMP v1/v2c Traps
**SNMP MIB**
MIB-II, Bridge MIB, Ethernet-Like MIB, VLAN MIB, SNMP MIB, PoE MIB, RMON, LLDP MIB, Trap MIB, Private MIB
**Port Mirroring**
Online traffic monitoring on multiple selected ports
**Port Security**
Assign authorized MAC to specific port
**Port Trunk**
Static Trunk and IEEE802.3ad LACP Up to 8 Trunk Group, 8-ports per Trunk
**VLAN**
IEEE802.1Q VLAN, GVRP Up to 256 VLANs
**Quality of Service (QoS)**
8 Priority Queues/ Port IEEE802.1p Class of Service and Layer 3 TOS/DiffServ
**Rate Control**
Ingress Filtering for Broadcast, Multicast, Unknown DA or all packets, step by 64Kbps
**IGMP Snooping**
IGMP Snooping V1/V2/V3 for multicast filtering IGMP Query v1/v2
**GMRP**
GARP Multicast Registration Protocol
**IEEE 1588 PTP**
Precision Time Protocol for precise time synchronization of networks
**IP Security**
IP Security to prevent unauthorized access
**Access Control List** L2 - L4 Access Control Lists
**802.1x**
Port based Network Access Control
**DHCP**
DHCP Client/Server and DHCP Option 82
**Firmware Upgrade** TFTP and NetVision
**Alarm**
Automated warning by pre-defined events
**Event Alarm Relay**
System event, Port Event, PoE Event
**Jumbo Frame Enable/Disable** Yes. Up to 9216 Bytes

## NETWORK REDUNDANCY

**Rapid Spanning Tree Protocol (RSTP)**
IEEE802.1D-2004 RSTP, Compatible with STP
**Multiple Super Ring**
Rapid Super Ring, Rapid Dual Homing, Multi-Ring, Trunk Ring
**Rapid Super Ring (RSR)**
Yes. Failure recovery within less than 5ms
**Rapid Dual Homing**
Yes. Multiple uplink paths to one or multiple upper switch
**LPLD**
Auto-detect Powered Device status for device auto-reset
**PoE Schedule Management**
Activation and power scheduling option per PoE port basis
Weekly schedule on hourly basis is supported
**Advanced PoE Management**
Port status monitoring, Emergency power management, voltage/current monitoring and regulation

## ELECTRICAL SPECIFICATIONS

**Power Input Voltage** DC1/DC2
802.3af 48VDC (46-57VDC)
802.3at 53VDC (52-57VDC)
**Aggregation Mode** 53VDC
(AC + DC1/DC2 Aggregated) 8.2A (Max.)
**Aggregation Mode**
(DC1 + DC2 Aggregated) DC1 = DC2
**PSU/AC Power** 100-250VAC, 47-63Hz, 4A
**Power Consumption (maximum)**
28 Watts (without PD Load)
**Power Budget**
DC1 400-Watts
DC2 400-Watts
PSU/AC Power 300-Watts
**Power Connector** 2
**Power Connector Type**
(1) 4-Pin Screw Terminal Block
(1) IEC320-C14 AC Power Connector
**Power Input Redundancy** Yes
**Reverse Polarity Protection** Yes
**Power Alarm Relay**
Alarm for power failure notification
**Relay Rating** 1A Max. @ 24VDC

## ENVIRONMENTAL SPECIFICATIONS

**Air temperature**
System On -25 to 65°C
System Off -40 to 85°C
**Operating Humidity (non-condensing)** 5% to 95%
**MTBF (Mean Time Between Failures)** 22.83 Years

## ETHERNET SPECIFICATIONS

**Connector Type** RJ-45
**Number of Ports**
24 x 10/100Base-TX with PoE Injector
4 x 10/100/1000Base-TX
**Standard for RJ45 Ports**
(24) 10/100BASE-TX Auto MDI/MDI-X, Auto negotiation
(4) 10/100/1000Base-TX, Combo with SFP
**Standard for Optional SFP**
(4) 1000Base-SX/LX/LHX/XD/ZX Gigabit Fiber
**Ethernet Cable Type**
CAT-3, CAT-4, CAT-5, CAT-5e, CAT-6 (UTP or STP)
**Link Distance** 100 Meters
**Port Alarm Relay**
Alarm Relay for Port Failure Notification
**Relay Rating** 1A Max. @ 24VDC

## SERIAL CONSOLE PORT SPECIFICATION

**Connector Type** DB9 Male
**Number of Ports** 1
**Serial Interface**
RS-232 (TXD, RXD, Signal GND)
**Baud Rate** 9600Bps
**Device Data Control**
Data Bits 8
Parity None
Stop Bits 1
Flow Control None

## EXPORT INFORMATION

**Packaged Shipping Weight** 16.60 lbs
7.53 kg
**Package Dimensions** 24" x 4.4"x 18.4"
60.96 x 11.18 x 46.74 cm
**UPC Code** 7-56727-32040-1
**ECCN** 5A992
**Schedule B Number** 8517.62.0050

## REGULATORY APPROVALS

**Emissions**
Canadian EMC Requirements
ICES-003
European Standard EN55022
FCC Part 15 Subpart B
Class A limit
AS/NZS CISPR 22
**Immunity**
European Standard EN55024:
IEC 1000-4-2/EN61000-4-2: ESD
IEC 1000-4-3/EN61000-4-3: RF
IEC 1000-4-4/EN61000-4-4: Fast Transient/ Burst
IEC 1000-4-5/EN61000-4-5: Surge
IEC 1000-4-6/EN61000-4-6: Conducted Disturbance
IEC 1000-4-8/EN61000-4-8: Magnetic Field
IEC 1000-4-11/EN61000-4-11: DIPS and Voltage Variations
**Safety**
IEC 60950/EN60950 (LISTED)
CSA C22.2 No. 60950/UL60950 Third Edition
**Vibration** IEC 60068-2-6
**Shock** IEC 60068-2-27
**Free Fall** IEC 60068-2-32
**Other**
European Standard: 2002/95/EC Directive (RoHS)
**Regulatory Approvals**

## RECOMMENDED PRODUCTS ::

| | |
|---|---|
| **1200048** | 48VDC External Power Supply Adapter |
| **1200059** | SFP, Multi-Mode, 550M 1000BASE-GSX (Extended Temperature) |
| **1200060** | SFP, Single-Mode, 10KM 1000BASE-GLX (Extended Temperature) |
| **1200054** | Power over Ethernet Splitter (24VDC, 24W) |

COMTROL®

**Warranty Information**
Comtrol offers a 30-day satisfaction guarantee and 5-year limited warranty.

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